

Abstract of the Disclosure

A high electron mobility transistor includes a pair of charge screen layers disposed over a first one of active and charge donor layers of the high electron mobility transistor. The pair of screen layers are patterned to provide a double recessed channel. A first charge screen layer disposed adjacent to the charge donor layer is etched to provide a recess having a first length between source and drain electrodes, whereas a second charge screen layer disposed over the first aforementioned charge screen layer, as well as, a portion of the aforementioned first charge screen layer are etched to provide a second, substantially longer length between source and drain electrodes. The gate electrode is provided in the first aforementioned recess in Schottky barrier contact with the charge donor layer.